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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,222	09/05/2003	Kazuhito Nagura	0951-0126P	6994
2292	7590	11/15/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			AZEMAR, GUERSSY	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/655,222	Applicant(s) NAGURA ET AL.	
	Examiner Guerssy Azemar	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/29/06; 12/3/03; 9/5/03</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The application exceeds the amount of words required in the abstract.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1- 3, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Okuyama et al. (US 6,256,390) and Bennett (20020152341).

(1) With respect to claim 1:

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As shown in figure 5, the admitted prior art teaches a plurality of ports for transmitting and/or receiving one or more signals substantially as defined at IEEE 1394 (blocks 306 and 307 have output connectors with external connection);

at least one of the ports being for transmitting and/or receiving one or more optical signals (307 supports optical transmission and/or reception and 306 supports electrical transmission and/or reception);

However the admitted prior art does not teach one or more protocol conversion means for carrying out signal transmission protocol conversion at a physical-layer level.

Okuyama et al. teaches one or more protocol conversion means for carrying out signal transmission protocol conversion at a physical-layer level (5, 8, 17 in figure 1, block 17 converts formats DV, MPEG and others and blocks 5 and 8 show specifically conversion between DV and MPEG formats).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the multiple format conversion firmware taught by Okuyama et al. in the multiple port IEEE 1394 compliant apparatus taught by the admitted prior art because it would make it more flexible and capable of communicating several other formats.

However, Okuyama et al. does not teach one or more bus management means co-manages one or more signal buses which are respectively connected externally to at least a portion of the plurality of ports

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Bennett teaches one or more bus management means co-manages one or more signal buses which are respectively connected externally to at least a portion of the plurality of ports (16 in figure 1).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to add the bus manager taught by Bennett in the interface taught by the admitted prior art because it would provide very high performance serial bus.

(2) With respect to claim 2:

The admitted prior art teaches all of the subject matter as described above except for the apparatus wherein said one or more protocol conversion means carries out signal transmission protocol conversion at an application level.

Okuyama et al. teaches the apparatus wherein said one or more protocol conversion means carries out signal transmission protocol conversion at an application level (figures 2, 3, 5, 6 etc show how data packets and frames are rearranged and broken down for file transfer; and all of this is dealt with at an application level).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide protocol conversion as taught by Okuyama et al. in the admitted prior art because it would provide such feature without the extra hardware and would therefore be more economical.

(3) With respect to claim 3:

The admitted prior art teaches all of the subject matter as described above except for the apparatus, wherein at least one of the application-level protocol conversion means carries out conversion between or among one or more DV-format

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signal transmission protocols and one or more MPEG-2TS-format signal transmission protocols.

Okuyama et al. teaches the apparatus, wherein at least one of the application-level protocol conversion means carries out conversion between or among one or more DV-format signal transmission protocols and one or more MPEG-2TS-format signal transmission protocols (column 14, lines 66-67, teaches conversion of DVC and DVD format or simply D format and also column 16, line 30, MPEG-2TS format).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide protocol conversion as taught by Okuyama et al. in the interface taught by the admitted prior art because it would be very convenient for users since more and more of them are more interested in these formats.

(4) With respect to claim 8:

The admitted prior art teaches electronic equipment comprising one or more optical transmission apparatuses (see figure 5, equipment 300, block 307 teaches an optical transceiver which clearly is to be connected to an external optical device).

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and Okuyama et al. (US 6,256,390) as applied to claim 2 above, and further in view of Akune (5,831,565).

The admitted prior art and Okuyama et al. teach all of the subject matter as described above, except for the apparatus, wherein at least one of the application-level protocol conversion means carries out conversion between or among one or more 1-bit

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audio signal transmission protocols and one or more multi-bit audio signal transmission protocols.

However, Akune teaches an apparatus, wherein at least one of the application-level protocol conversion means carries out conversion between or among one or more 1-bit audio signal transmission protocols and one or more multi-bit audio signal transmission protocols (column 2, lines 8-10).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use bit conversion feature taught by Akune in the transmitting device taught by the admitted prior art because it would make the conversion high-efficient (column 2, line 16).

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and Okuyama et al. (US 6,256,390) and Akune (5,831,565) as applied to claim 4 above, and further in view of Kojo et al. (20040033057).

The admitted prior art and Okuyama et al. and Akune teach all of the subject matter as described above, except for the apparatus, wherein at least one of the multi-bit audio signal transmission protocol or protocols is substantially as defined at IEC 60958.

However, Kojo et al. teaches the apparatus, wherein at least one of the multi-bit audio signal transmission protocol or protocols is substantially as defined at IEC 60958 (between block 1 and 11, the data transmitted is IEC 60958 compliant).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the IEC 60958 compliant apparatus taught by Kojo et al. in the

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transmitting device taught by the admitted prior art because it makes it easy to discriminate among multiple formats in case there is a change in the format being transmitted. Hence the apparatus would be more flexible.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and Okuyama et al. (US 6,256,390) and Akune (5,831,565) as applied to claim 4 above, and further in view of Wong et al. (6,466,476).

The admitted prior art and Okuyama and Akune teach all of the subject matter as described above, except for the apparatus, wherein at least one of the multi-bit audio signal transmission protocol or protocols is substantially as defined at MPEG Audio Layer-3.

However, Wong et al. teaches the apparatus, wherein at least one of the multi-bit audio signal transmission protocol or protocols is substantially as defined at MPEG Audio Layer-3 (Figure 3 shows an example of a data frame according to MPEG Audio Layer-3 standard, column 6, lines 32 – 48 supports the multi bit MP3 signal).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the bits as defined at MPEG Audio Layer-3 taught by Wong et al. in the transmission device taught by the admitted prior art because it would ensure that the memory adapt on-the-fly to storage of data having different formats.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and Okuyama et al. (US 6,256,390) as applied to claim 2 above, and further in view of Smith (20020000831).

The admitted prior art and Okuyama teach the apparatus, wherein one or more of the application-level protocol conversion means take the form of one or more replaceable modules.

However, Smith teaches a replaceable module (page 3, paragraph 0036, "removable module").

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the concept of removable module taught by Smith in the transmitting device taught by the admitted prior art because it would make it more user friendly.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guerssy Azemar whose telephone number is (571)270-1076. The examiner can normally be reached on Mon-Fri (every other Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571)272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Guerssy Azemar

11/01/2006



KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER